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Investment of state funds: An analysis of the portfolio management of Montana's three largest trusts

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THE INVESTMENT OF STATE FUNDS: AN ANALYSIS OF THE PORTFOLIO MANAGEMENT OF MONTANA'S THREE LARGEST TRUSTS

By

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"Failure to offset the continued shrinkage of the value of the nation's monetary unit through compensating investment measures in the management of the Permanent Funds will impose an ever-increasing burden on the taxpayers of the State, for the mounting loss of real income received by the beneficiary institutions from their invested endowments will require an offsetting increase in legislative appropriations for institutional maintenance. The hazards of an aggressive program of investment in growth equities are no greater, it should be recognized, than the predictable loss that will be incurred through failure to adopt adequate counterinflationary measures in its long-range investment planning."

Edmund H. Kase, Jr., "The New Mexico State Investment Council- Five Years in Retrospect," _New Mexico Business_ (August 1964), p. 7.

CHAPTER I

INTRODUCTION

Statement of Problem

Few if any state and local government trust funds are able to obtain the maximum yield on their investments because of out-of-date regulations, a lack of professional management, poor choices of investment media, or a combination of these problems.[1] In the investment environment, "a dollar not made is as bad as a dollar lost. Therefore, negative inaction on the part of a manager is as costly as reckless action. In fact in the history of the American pension fund, inaction (disguised under the ambiguous term conservatism) has been far more costly than reckless investment."[2] Even if the cause of management's inaction is out-of-date regulation, only the blame is shifted. The costliness remains.

The trend toward updating regulations and hiring professionals to manage state investments has indeed been slow, although the number of states authorizing the purchase

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[1] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman. (Helena, Montana: McKee Printing, 1964.) pp. 9 - 11.

[2] Sidney Homer, "Bond Investment Policy for Pension Funds," C.F.A. Readings in Financial Analysis. (Homewood, Ill.: Richard D. Irwin, Inc., 1970.) p. 628.

of common stock has increased from 28 in 1960 to 42 in 1970.[3] As shown in Chapter IV, most states still place some sort of restriction on the amount of the fund which can be so invested. Montana has not as yet joined the trend toward liberalization of investment regulation. Similarly, the desirability of professional management of state investments has been indicated in numerous state studies dating back at least to 1960, but it was not until 1971 that a professional was employed.[4] Still another apparent problem concerning the state's investment management has been the poor choice of investment media available and authorized. For example, why should a municipal security yielding 3.5 percent have been purchased if a government bond yielding 4.0 percent was available at that time.[5] The topic of this paper will be to analyze these problems as they have affected the three largest state trust funds in Montana and to recommend methods for improving the yields obtained.

Objectives of the Paper

The specific objectives of this paper are to analyze the portfolio management of the Trust and Legacy Fund,

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[3]National Association of State Retirement Administrators, Survey of State Retirement Systems, (June 30, 1970).

[4]Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman, (Helena, Montana: McKee Printing, 1964), p. 7.

[5]Department of State Lands and Investments, Biennial Reports, (Butte, Montana: Allied Printing, 1960 - 1970).

Teachers' Retirement Fund, and the Public Employee Retirement Fund in terms of return on investment. Using the values for assets and interest as reported in the biennial reports of the funds, the growth of assets, the annual interest, and a hypothetical common stock growth are presented in the various performance summaries. This data is presented in terms of both actual and 1960 dollars to compensate for the effects of inflation. A summary of the more recent studies made in 1964 and 1970 is also presented along with a summary of the regulation and management changes made as a result of these studies. Finally, recommendations are made for correcting remaining deficiencies. Throughout the paper, the specific losses in revenue due to the problems noted is emphasized.

Chapter II is a summary of the regulatory background as well as the performance summary for each of the funds. In the introduction to the chapter, the methods for computing the hypothetical growth for a common stock invested fund is presented including tables showing the conversions necessary to obtain the constant dollar index and the common stock growth index.

CHAPTER II

FUND SUMMARY

Introduction

An historical background along with a performance summary of each of the three major funds is presented in Chapter II. The historical background includes a brief summary of the statutory and constitutional regulations governing each fund, a statement of the purpose of each fund, and a look at the more pressing investment return problems. The performance analysis consists mainly of a graph of the growth of the various fund's assets and the asset growth in terms of 1960 dollars, the interest earned each year and the interest in terms of 1960 dollars, and finally, a hypothetical growth which could have been attained had the fund been invested 100 percent in common stock. This hypothetical growth is also presented in terms of 1960 dollars.

In order to deflate the various performance measures and the hypothetical growth from equity investments, an index was established using the consumer price index as reported in the Federal Reserve Bulletin. Using the figures as reported in the FRB, a new index was established with 1960, the base year, equal to 1.00. The actual index as reported and the converted index are shown in Table 1. As indicated, the purchasing power of the 1960 dollar declined by some 30 percent during the 10 years covered by this study. To obtain the final deflated or constant values for the reported asset, interest, or common stock values, the reported figure was divided by the converted index value for that year.

TABLE 1

ACTUAL AND CONVERTED CONSUMER PRICE INDEX

Year	Actual*	Converted
1960	88.7	1.00
1961	89.6	1.01
1962	90.6	1.02
1963	91.7	1.03
1964	92.9	1.04
1965	94.5	1.06
1966	97.2	1.09
1967	100.0	1.13
1968	104.2	1.17
1969	109.8	1.24
1970	116.3	1.31

Source: Federal Reserve Bulletin, No. 12, Vol. 57, (October 1971), p. A-68.

*base year = 1967

To obtain a hypothetical yield for a fund invested 100 percent in common stock, the asset value for each fund in 1960 was used as a starting figure. Next an index based on the Standard and Poors 500 stock average was established.

The actual and converted indices are shown in Table 2. As is indicated by the figures, after rising to a peak value of 1.77 (1960 = 1.00), the final 1970 stock price would be 1.50 times the 1960 base or approximately a 50 percent gain over 10 years. In addition the stocks paid average dividends for the period that ranged from a high of 3.83 percent to a low of 3.00 percent. In calculating the total growth of asset value, however, a constant figure of 3.00 percent was used. This tends to give a more conservative return than had the actual amounts been used.

TABLE 2

ACTUAL AND CONVERTED STOCK PRICE INDEX

Year	Actual*	Converted
1960	55.85	1.00
1961	66.27	1.19
1962	62.38	1.12
1963	69.87	1.25
1964	81.37	1.46
1965	88.17	1.59
1966	85.26	1.53
1967	91.93	1.65
1968	98.70	1.77
1969	97.84	1.75
1970	83.22	1.50

Source: Federal Reserve Bulletin, No. 12, Vol. 57, (October, 1971), p. A-65.

*base year = 1950

An example of the calculations used to compute the hypothetical asset value for each year is as follows:

> Asset value 1961 = asset value in 1960 multiplied by the dividend rate multiplied by the stock price index.

Thus for 1961, the projected growth in asset value for the Trust and Legacy Fund was calculated as follows:

> $44,278,000 x 1.03 x 1.19 = $54,271,545 (asset value in 1961)

To deflate this value, the results were divided by the consumer price index of 1961 which was 1.01. This gave the purchasing power of the 1961 projected value in terms of 1960 constant dollars.

These formulas were applied to each of the funds to determine constant values and the hypothetical growth of each fund if it had been invested in common stock. The funds needed to have performed only as well as the averages to have obtained the growth hypothesised.

<u>Montana Trust and Legacy Fund</u>

"In 1924, 18 sections were added to the Montana Constitution as Article XXI. Apparently, the main purpose of this article, which created the Montana Trust and Legacy Fund, was to establish a unified system for investing permanent funds, and to provide machinery for the acceptance of gifts and donations to the state."[1] The state Board of Land

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[1] <u>Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly</u>, W. A. "Bill" Groff, Chairman, (Helena, Montana: McKee Printing, December, 1964), p. 4.

Commissioners was empowered to manage the Trust and Legacy Fund in accordance with Constitutional and state statute regulations. Specifically, this regulation was found in sections 79-1201 and 1202, and 81-1001 through 81-1008.

The Trust and Legacy Fund consists of the permanent school fund and all other public funds of the state subject to long-term investment not legally in the custody of any lawfully constituted board or the investment of which has not been designated by statute.[2] Interest earned on the fund's investments are credited pro rata to the various accounts which make up the fund.

The broad purpose of the fund is to provide revenues through the investment of permanent funds for the use of the state's public schools. These revenues supplement the funds generated through taxation to support the public school system. The per-student allocation of revenue from the Trust and Legacy Fund for the years 1960 through 1970 is shown in Table 3. Although the average annual cost of educating each student in the state was reported to be $822.00 in 1970, some communities only spent around $270.00.[3] Thus, although the degree of benefit varies greatly from community to community, all areas do benefit significantly from the investment income of this fund. Obviously, if this income could be increased, both students and taxpayers would benefit.

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[2] Department of State Lands and Investments, Biennial Reports, (Butte, Montana: Allied Printing, 1968), p. 2.

[3] "Financing America's Schools," U.S. News & World Report, November 15, 1971, p. 60.

TABLE 3

PER-STUDENT ALLOCATION FROM TRUST AND LEGACY FUND INCOME

Year	Allocation
1960	$19.89
1961	19.55
1962	20.63
1963	21.35
1964	22.82
1965	23.87
1966	22.88
1967	25.87
1968	34.67
1969	40.17
1970	34.10

Source: Department of State Lands and Investments, Biennial Reports, (Butte, Montana: Allied Printing, 1970), p. 4.

Since the return on investment for the Trust and Legacy Fund is the lowest of the three funds being studied, there is little doubt that the yield could be improved. The main problem appears to be the restrictive regulation of investing for the Trust and Legacy Fund. This regulation, section 81-1001 of the state statues, permits the fund to invest only in general obligations bonds of the state such as school district bonds, county and municipal bonds, bonds of the state of Montana, and United States government bonds. All of these investment media have had lower yields than the corporate bonds authorized for purchase by the Teachers' and

Public Employee Retirement Funds.[4] The need to liberalize the investment regulations of this fund has been pointed out numerous times in past studies, but no changes have as yet been made.[5]

Failing to choose the highest yielding security available has also apparently been a problem in the past which has caused yields to be lower than necessary. The purchases of the Trust and Legacy Fund for the years 1960 through 1970 are shown in Table 4. To understand the reason that these investments in municipal bonds were not in keeping with the concept of maximizing return, note the difference in return between government bonds and municipals as shown in Table 5. These figures support the hypothesis that the purchase of municipal bonds invariably produced lower income than the corresponding government bonds.

On the surface, it appeared that the problem of overly conservative investment selection had ended in 1965 when the purchases of municipal bonds ended. An analysis of the fund's biennial reports, however, indicated that this was not the case. For example, in the 1969-70 report, it was noted that the fund purchased almost 1.3 million dollars worth of U. S. Treasury notes with coupon rates over 7.0

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[4] Moody's Investor Service, January 11, 1971.

[5] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman, (Helena, Mt.: McKee Printing, December, 1964), pp. 37 and 38.

percent with maturities in the mid-seventies. During this same time period, another two million was invested in Federal Land Bank bonds with coupon rates of slightly over 5.0 percent and maturities again in the mid-seventies.[6] There was no indication of whether these Land Bank bonds were purchased at a discount, however, and this factor could have accounted for part of the large gap in yields.

TABLE 4

TRUST AND LEGACY FUND PURCHASES, 1960 - 1970

Year	Amount Government Bonds	Amount Municipal Bonds
1960	$1,382,000	$1,709,800
1961	3,750,000	994,000
1962	1,800,000	694,000
1963	2,300,000	383,000
1964	1,000,000	952,000
1965	2,453,000	400,000
1966	2,339,000	none
1967	2,961,000	none
1968	2,303,000	none
1969	2,908,000	none
1970	2,970,000	none

Source: Department of State Lands and Investments, Biennial Reports (Butte, Mt.: Allied Printing, 1960 - 1970).

[6]Department of State Lands and Investments, Biennial Reports (Butte, Mt.: Allied Printing, 1960 - 1970).

TABLE 5

YIELDS ON MUNICIPAL BONDS, MEDIUM TERM, AND

LONG TERM GOVERNMENT BONDS, 1960 - 1965

Year	Municipals	Government Medium Term	Government Long Term
1960	3.60%	4.75%	4.25%
1961	3.60	3.60	3.75
1962	3.25	3.50	4.00
1963	3.30	3.75	4.10
1964	3.30	4.00	4.10
1965	3.40	4.25	4.25

Source: Moody's Investor Service

Another reason for the overly conservative investment policies of the fund stemmed from the fact that the portfolio manager for the fund accomplished the investment function as a side-line to his regular job. He had no training in investments nor were there any apparent guidelines for him to follow in choosing investments. This problem like the problem of too strict regulation of the fund's investments was pointed out by past studies of the state's investment policies.[7] Unlike the regulatory problem which has not been corrected, the hiring of a professional investment manager under the Executive Reorganization plan may eliminate the problem of management of the fund. Reorganization is discussed in Chapter III.

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[7] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964), pp. 3 - 4.

The performance summary of the Trust and Legacy Fund is shown in Figure 1. Using the values for assets and interest as reported in the biennial reports of the fund, the growth of assets, the annual interest, and a hypothetical common stock growth curve are shown in terms of actual and 1960 dollars. The effect of inflation can thus be demonstrated. As is indicated on the graph, the Trust and Legacy Fund lost approximately $23 million during the 10 year period 1960 through 1970 by not being allowed to invest in common stock. Moreover to attain the results indicated on the graph, the management of the fund would have had to produce average results since the hypothetical curve is based on the Standard and Poors 500 stock index, using the procedures outlined in the introduction to this chapter.

When inflation is considered, the asset value of the fund grew very little over the 10 year period. In addition, the interest earnings on the fund remained almost constant. These results are very discouraging in light of the tremendous increase in yields available during this period. When it is not possible to take advantage of the opportunities available due to regulatory limitations, however, the performance of the fund is bound to suffer. Hopefully, the need to liberalize the investment regulation of the fund is evident.

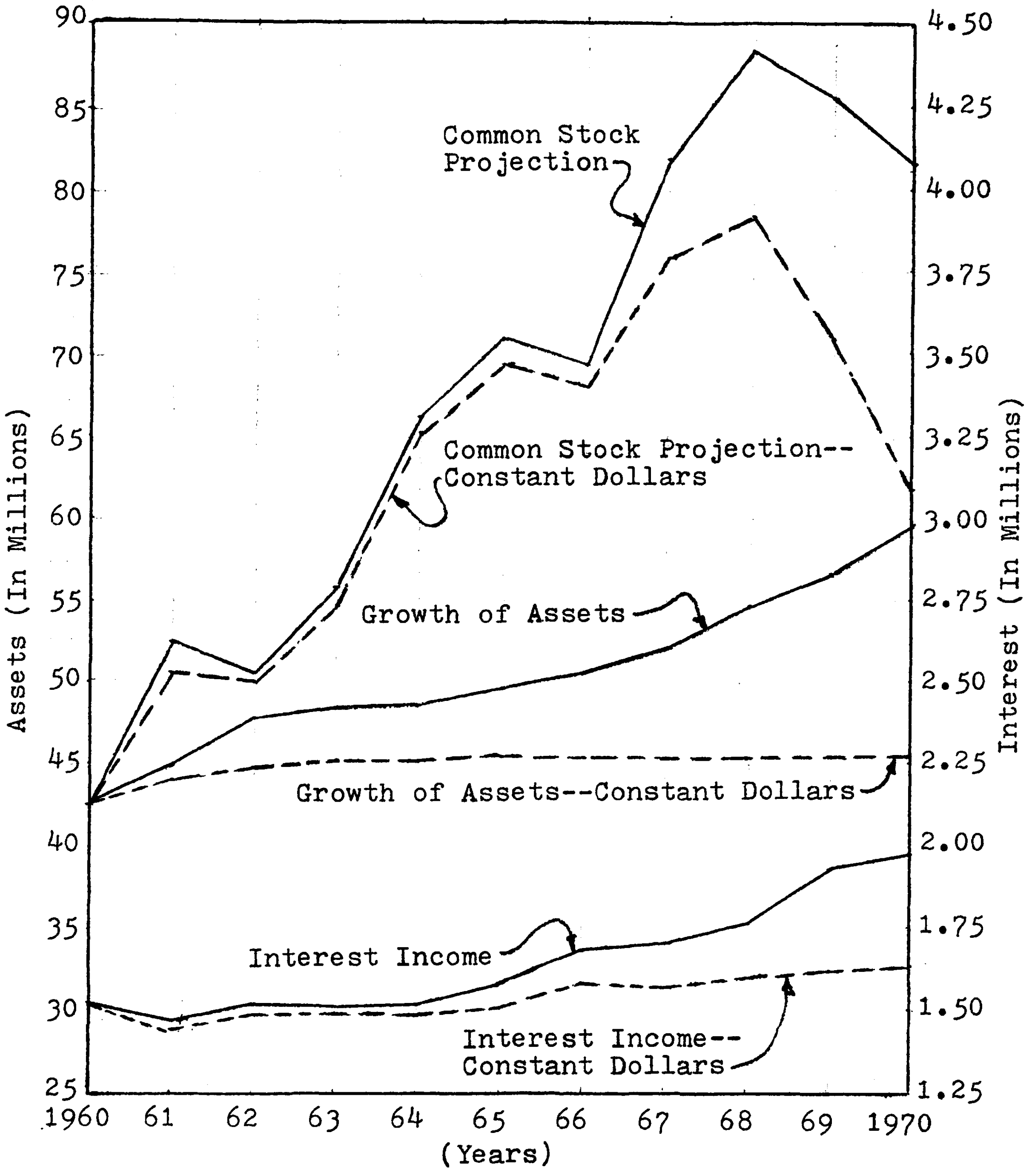

Fig. 1--Trust and Legacy Fund Performance

Teachers' Retirement Fund

The Teachers' Retirement System was created by section 75-2702 of the Montana Statutes. The Retirement Fund was established under section 75-2708 of that statute and was administered by the system's board of administration created under section 75-2703. Investment authority for the fund was delegated to the Board of Land Commissioners as part of the Long Term Investment Fund of the State.

"The Teachers' Retirement System exists to improve the educational system of the state by providing financial income to teachers who are retired by reason of service or disability and to provide survivor benefits if the teacher dies before retirement."[8] In order to do this, contributions are collected from both employer and employee and invested according to section 79-1202 of the statutes. This statute provided for considerably more liberal investments than for the Trust and Legacy Fund since the Teachers' Retirement System could have invested in VA and FHA mortgages and corporate bonds which were forbidden to the Trust and Legacy Fund. Thus, it was not surprising that the Teachers' Fund outperformed the Trust and Legacy Fund in terms of percentage growth in asset value and return on investment.

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[8]The Teachers' Retirement System of the State of Montana, Biennial Reports (Helena, Mt.: The Teachers' Retirement System, 1960 - 70), p. 2.

There was reason to believe that the fund could still have done better than it did, however. First, some investments apparently were made more conservatively than required by the statutes. In addition, as was indicated by the Standard and Poors growth index in the introduction to this chapter, common stock sustained greater yields for the 10 year period being analyzed than did any other type of investments. Since the fund was not allowed to invest in common stock, greater returns could probably have been gained.

The overly conservative investment of the fund has been concealed somewhat because of the relatively high return that has been earned. One example of this overly conservative problem has been the preference of the fund for long term government bonds over medium term even though the yield for medium term has been much greater for the period being considered. As in the case of the Trust and Legacy Fund, the purchase price of the security was not listed in the fund's annual report. Thus, actual yields may differ from the coupon rates quoted.

The amount of money lost by not allowing investment in common stock is approximated in Figure 2. In addition asset growth in terms of actual and constant 1960 dollars and interest income in terms of actual and constant dollars is presented. Although the Teachers' Fund did better than the Trust and Legacy Fund, its performance could also have been improved.

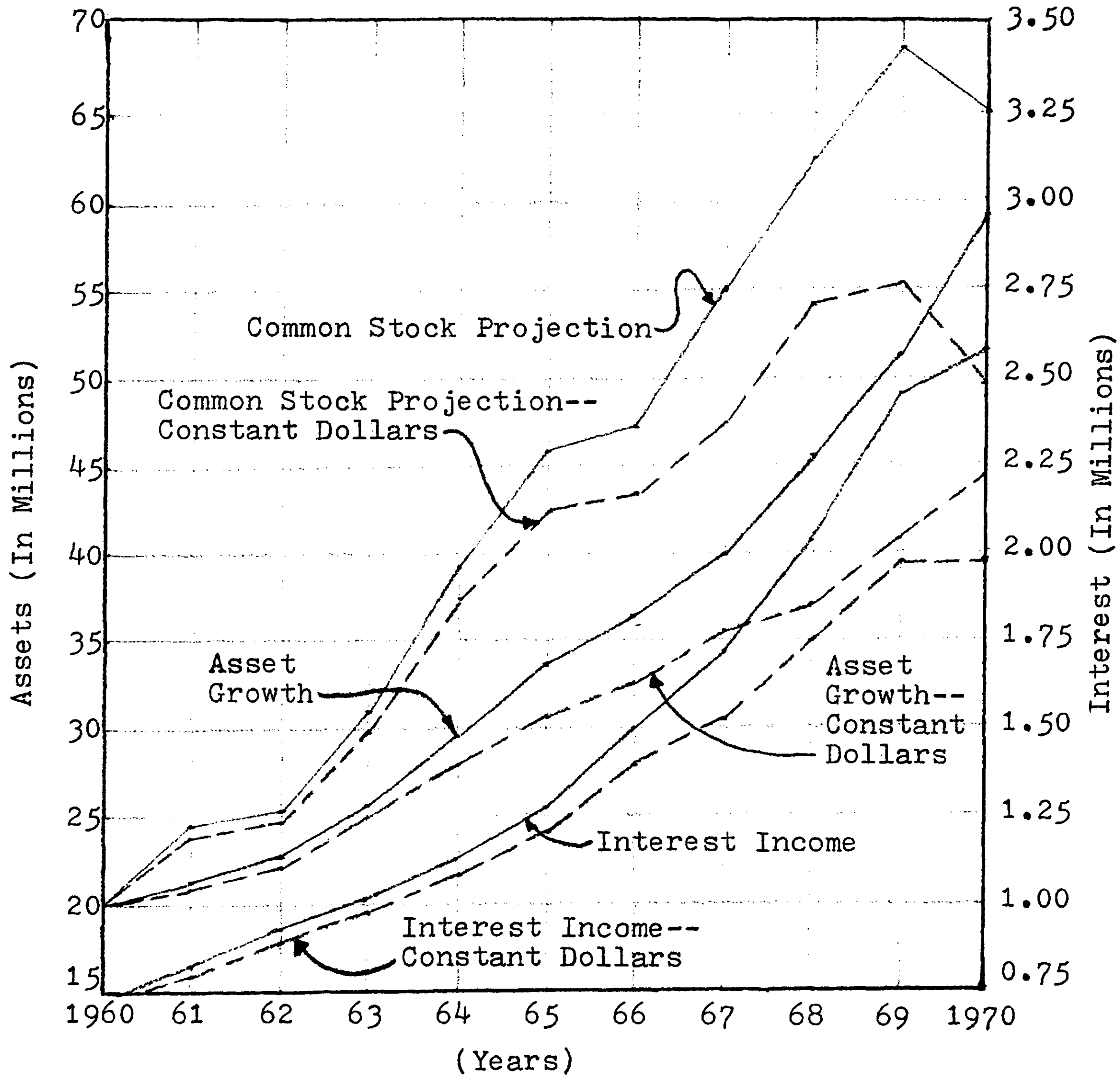

Fig. 2.--Teachers' Retirement Fund Performance

Public Employee Retirement Fund

The Public Employee Retirement System (PERS) was established in 1945 and was governed by sections 68-101 through 68-1320 of the state statutes. The retirement fund was created under section 68-405 and was managed by a board of administration of the system until this function was transferred to the state Board of Investments in August of 1971.

The purpose of the fund is to provide retirement benefits to public employees of the State of Montana as determined by the statutes and the Board of Administration of the fund. As in the case of the Teachers' Retirement Fund, contributions are collected from both employee and employer and retirement can be taken after 10 years of service to the state and upon reaching the age of 65. In addition, disability benefits are paid when the employee is prevented from working because of injury or disease arising out of or in the course of employment.

As stated, the organization currently responsible for investing the fund is the State Board of Investments. Previously, however, the state Land Board was designated as the responsible agency. Recognizing the lack of professional investment management in the Land Board department, the Board of Administration of PERS did all of the actual investing and sought retroactive approval from the Land Board most of the time. The total investments of the fund as of January 1, 1971 were $59,000,000 with the fund invested approximately 50 percent in public utility bonds, 36 percent in mortgages, and 14 percent in miscellaneous government securities.[9]

Like the other two funds, there was evidence of overly conservative investment of the PERS funds. Purchases by type of security that the fund's management made for the past 10 years are shown in Table 6. It appears from looking at the table that the management was more interested in either diversification or in local investment than in maximizing return. The rates of return for the various securities listed are given in Table 8 and Figures 10 and 11. It is apparent that the highest return for this period was obtainable in corporate bonds, mortgages, government medium term bonds, government long term bonds, and municipals, in that order. Thus no investments should have been made in the lower categories.

The performance summary of the Trust and Legacy Fund is shown in Figure 3. The asset growth, the annual interest and the hypothetical growth for a 100 percent common stock fund in terms of actual and constant dollar's are shown. Again it is obvious that the fund would have performed better had it been invested in common stock. The fund did perform much better than the Trust and Legacy Fund, however, probably

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[9]Public Employees' Retirement System, <u>Comparative Financial Statements</u> (Helena, Mt.: Public Employee Retirement System, 1960 - 1970).

because of the more liberal investment regulation. Much like the Teachers' Fund, the PERS fund was more able to counter the effects of inflation by purchasing securities with higher yields.

TABLE 6

PERS INVESTMENTS, 1961 - 1970

Year	Government Bonds	Municipal Bonds	Mortgages	Corporate Bonds
1961	50	295	3,369	none
1962	1,348	218	2,363	none
1963	2,536	91	2,202	1,685
1964	4,412	none	2,725	6,620
1965	3,576	none	3,474	3,363
1966	4,490	none	3,474	2,642
1967	3,553	none	2,794	3,100
1968	5,332	none	1,120	7,037
1969	**	**	**	**
1970	1,648	none	2,439	4,850

Source: Public Employees' Retirement System, Comparative Financial Statements (Helena, Mt.: Public Employee Retirement System, 1960 - 1970).

** Information unavailable

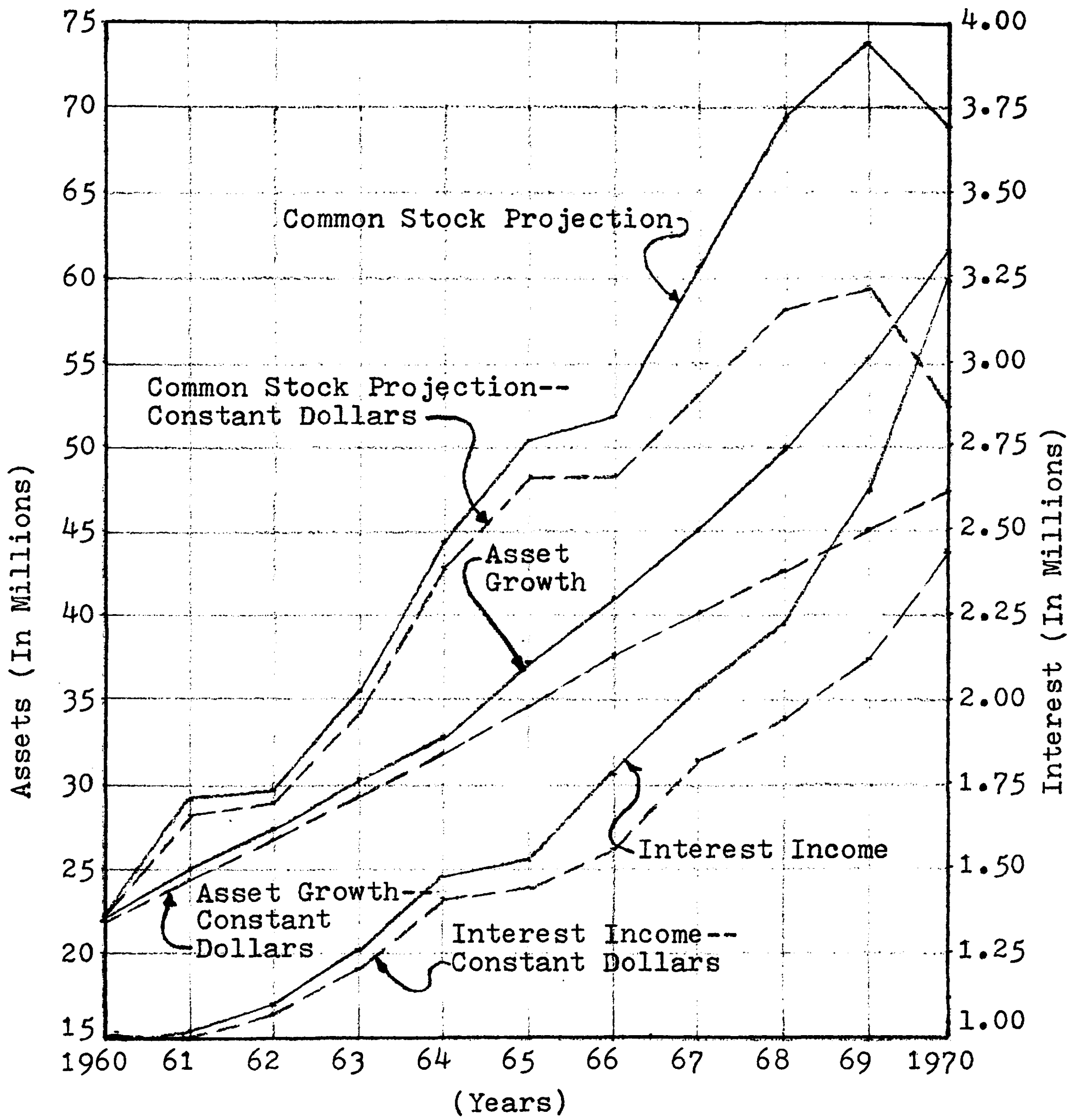

Fig. 3.--Public Employee Retirement Fund Performance

Summary

The three largest funds of the state have had different problems in the area of regulatory investment authorization, but somewhat similar problems in the areas of management and conservative choice of securities. All of these funds would have benefitted by more liberal investment regulations and by professional management of their assets. In addition, they would have had greater returns if their managers had merely selected the highest yielding securities available to them at the time. The facts that are shown in this chapter are, that considerable revenues were lost by not allowing more aggressive and more professional management of the state's investments. To compound this problem, the state has been aware of the actions necessary for at least 10 years and has only begun to take the needed actions to correct the deficiencies noted by previous studies.

The summary of past studies of the investment of state funds is presented in Chapter III. These studies include the 1964 Montana Legislative Report #14, the 1970 Report on Reorganization and the resultant Reorganization Act which established the State Board of Investments.

CHAPTER III

HISTORICAL BACKGROUND OF STATE INVESTMENT POLICIES

Introduction

Recognition of most of the existing deficiencies in the state investment program dates back at least to 1960 when the Legislative Council noted that "until experienced investment personnel are employed by the state, little can be done to increase the return on the state's investments."[1] No action was forthcoming, however, as a result of the 1964 study and the existing deficiencies were allowed to continue. Again in 1964, the Legislative Council prepared an extensive report on the need for updating the state's investment program.[2] This report also brought about little change in the state's program. Finally, after another investigation was made as part of the Executive Reorganization study conducted in 1970,[3] the State Board of Investments was established and a professional manager was hired to monitor the investment of all state funds.

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[1] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964), p. 9.

[2] Ibid.

[3] Report of the Montana Commission on Reorganization to the Forty-Second Legislative Assembly, Governor Forrest H. Anderson, Chairman (Helena, Mt.: McKee Printing, 1970).

Montana Legislative Council Report No. 14, December, 1964

Three major deficiencies in the state investment program were noted in the 1964 study. First, the need to allow investment in common stock in order to improve yields and maintain the purchasing power of the assets of the state funds was pointed out.[4] The fact that 28 states already allowed investment in common stock to some degree with a trend toward liberalizing investment statutes was noted in the study. The Council recommended that as soon as a professional investment manager could be hired, "the Constitution be amended to remove the barriers against investing the Trust and Legacy Fund and other funds in common stock and other corporate obligations."[5]

The second major deficiency noted in the study was the lack of a state investment office with a professional investment officer to manage the state's investments.[6] The Council noted that none of the personnel currently doing the investing had any professional experience nor did they work at the investing function full-time. The 1953 "Unified Investment Plan" was obviously not working since each fund

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[4] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964), p. 37.

[5] Ibid.

[6] Ibid.

was managing its own investments and was getting rubber stamp approval at most from the Land Board. Diverse investment procedures and programs had developed and much duplication of effort was noted. Thus, the Council recommended that a separate state agency be established called the State Investment Council consisting of five members appointed by the governor.[7] This Council would also include members from both the Teachers' and Public Employee Retirement Systems. The council felt that the establishment of an Investment Council would eliminate the problems noted above.

Third, the study's authors were quite critical of the fund's record keeping, particularly the Trust and Legacy Fund. "Diverse accounting methods are employed by three of the agencies; the records of the Department of Lands and Investments are hopelessly inadequate."[8] This same deficiency in the records of the Department of Lands and Investments was also cited in the 1960 study, but apparently no action was taken to improve the system. The Legislative Council felt that the creation of a centralized investment office would also eliminate this problem.

Again however, nothing was done to correct the problems cited. As in 1960, a well prepared, thorough report on major problems in the investment of the state's trust funds was ignored. This failure to act has cost the state

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[7] Ibid.

[8] Ibid., p. 6.

at least 35 million dollars in lost revenue over the years 1960 - 1970, as shown in Chapter II. Finally when the Reorganization Plan for investments was implemented, the state began to take action on the deficiencies noted in 1960 and again in 1964 in the area of state investments.

The Report on Executive Reorganization

Project No. Montana P-44, Executive Reorganization, again noted the same deficiencies in the state investment program that had been pointed out in 1960 and 1964. This study made a plea mainly for the establishment of a centralized investment office as part of the executive reorganization program and did not deal much with the need to update the investment regulations, a legislative problem. The need for professional investments personnel to manage the investment program and the need to centralize the decision making and record keeping functions was pointed out in the study.[9]

In the study it was stated that "the decentralization of administration and lack of qualified investment personnel make the investment process inefficient and it is difficult to accurately determine exactly where the state's money is and the rate of return."[10] This problem was evident when

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[9] Report of the Montana Commission on Executive Reorganization to the Forty-Second Legislative Assembly, Governor Forrest H. Anderson, Chairman (Helena, Mt.: McKee Printing, 1970), p. 59

[10] Ibid.

the varied investment practices of the state's three major trust funds were studied. The 1953 Unified Investment Plan failed because the Teachers' and Public Employee Retirement Funds were unwilling to yield the management of their investment functions to the Land Board. This would most likely not have happened if the Land Board had hired a professional to manage the investments for which the Land Board was given responsibility under the plan. This diffusion of investing responsibility that has developed undoubtedly has led to duplication of offices, records, accounting, and personnel. Thus the study recommended that "the investment of retirement funds ought to be centralized with the investment of all state funds under a qualified staff of investment specialists."[11]

Reorganization of the Executive Department

Investments

The result of the project study on reorganization was the passage of Senate Bill 274, "State Reorganization of the Executive Department." The State Board of Investments which was activated by executive order August 20, 1971 was a result of this bill. The Board is composed of five members appointed by the Governor with experience and knowledge in the field of investments. In addition, the Board has hired an investment manager with experience as a former brokerage firm Vice-President. Under the reorganization plan, the

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[11] Ibid., p. 67.

Board has sole authority to exercise the investment functions transferred to it and no other agency may invest state funds. Members of both the Teachers' and Public Employee Retirement Systems are members of the Board of Investments, however, and may presumably advise the investment officer. The Board is required to continue investing under the current regulations and may veto any proposed investments under its jurisdiction.

Summary

"The major deficiencies existing in the state's investment program are the same as they have been for the past 20 years."[12] This statement from the 1970 study on reorganization was a concise explanation of the situation in Montana prior to the establishment of the Board of Investments this past summer. Numerous times the need for updated regulation, for hiring professional management, and for centralizing investing authority had been pointed out. Yet the problems have persisted and have still not been completely solved. The state cannot expect the new investment officer to obtain the best possible yields on the assets of the various trust funds unless he is given more freedom in selecting the investment media. Standardized regulation for all of the state funds should be set up. With the establishment of a centralized investment office, many problems should be overcome. Others such as updating regulations must still be overcome.

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[12] *Ibid.*, p. 39.

Recommendations for improving the yield on state investments are made in Chapter IV. Foremost of these is the need to allow investment in common stock. Other recommendations are in the area of investments either now being made or that have been made in the past, namely mortgages and municipal bonds.

CHAPTER IV

RECOMMENDATIONS

The Case for Common Stock Investment

The question of equity investment should concern all trust fund managers and legislators in light of the higher yields obtainable on these securities. The 1964 Legislative Council report on investments stated that 28 states already allowed investment in common stock and the trend was toward more and more liberal investment laws. Today at least 42 states allow investment in common stock.[1] Governments are rapidly realizing that the only way to maintain the purchasing power of their assets is to provide their investment managers with the freedom to choose the highest yielding securities available with reasonable safety of principle. This includes allowing the purchase of high-grade equities.

Just how much revenue the state has lost by not allowing investment in common stock can only be estimated, but the investment yields in almost every state whose laws were changed to permit investment in common stock have increased when growth as well as dividends was included.[2] An example of the growth

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[1] National Association of State Retirement Administrators, Survey of State Retirement Systems, (June 30, 1970).

[2] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964), p. 35

factor was evident in an analysis of the Wisconsin Retirement Fund. That fund was divided into two sections so that the performance of the fund could be more easily analyzed. The overall interest earned for the fund was 4 percent, only slightly below the average of Montana's funds.[3] The equities portion of the fund, however, which makes up approximately 50 percent of all assets had the following percent growth during the period 1963 through 1969.

TABLE 7

GROWTH RATE OF WISCONSIN RETIREMENT FUND
COMMON STOCK PORTFOLIO, 1963 - 1969

Year	Percent
1963	13.1
1964	17.0
1965	14.5
1966	(7.5)
1967	21.0
1968	13.1
1969	(5.6)

Source: National Association of State Retirement Administrators, Survey of State Retirement Systems, (June 30, 1970), p. 57.

When this growth was added in to the interest earned, the overall yield for the fund was almost 7 percent or approximately 75 percent higher than for Montana. The average growth

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[3]National Association of State Retirement Administrators, Survey of State Retirement Systems, (June 30, 1970), p. 56.

of the common stock fund for the reported period which included two significant declines in the stock market was over 9.0 percent. If Montana could have increased the return on its investments 2 to 3 percent over this period, as much as an additional six million dollars per year could have been earned. This amount of course depends on both the amount of the increase and the size of the fund being invested.

In previous studies done by Montana's Legislature in 1960 and 1964 on the investment of public funds, it was also pointed out that millions of dollars in lost income over the years was due to the prohibition against common stock investment. It was pointed out in each study that their observations of the past were actually hindsight and similarly, the loss of revenues pointed out by this paper are also hindsight. What is significant, however, is the fact that each time a study is made, this same method of analysis is able to point to a considerable loss of revenue due to the same cause. The State must at some time use foresight and authorize the purchase of common stock so that the indicated losses in revenue will not continue. Both of the earlier studies advocated the authorization to purchase common stock, but neither recommendation was adopted. Either through a lack of understanding of the needs and structure of trust funds or through a lack of understanding of the investment function, Montana has lagged behind some 42 other states in authorizing trusts to purchase equities. The question is thus not whether revenues have been lost but only how much.

Studies conducted by most states prior to allowing investment in common stock as well as the works of many professional persons in the area of finance and economics have pressed states to allow investment in common stock. Included in the list of distinguished contributors to the theory of state fund management are Dr. Murray E. Polakoff, Chairman of the Economics and Finance Department, Graduate School of Business, New York University,[4] Dr. Paul L. Howell, Professor of Finance, Columbia University,[5] Dr. D. G. Tyndall, Professor of Business, Berkley,[6] and Dr. Peter O. Dietz, Professor of Finance, Northwestern University.[7] As a result, even though state and local government pension funds do not rely as heavily as private pension funds on common stock investment, a trend toward allowing common stock purchases is evident. From 1964 to 1970 the number of states allowing common stock purchases increased from 28 to at least 42, with no information available for five states. A summary of the states regulations is presented in Figure 4. As shown in the summary, the amounts authorized by many states is small which is indicative of the

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[4]Murray E. Polakoff, "Public Pension Funds," Financial Analysts Journal, (May-June, 1966), pp. 79 - 81.

[5]Paul L. Howell, "Pension Funds and the Capital Market," The Journal Of Finance, (May, 1958), pp. 261 - 275.

[6]D. G. Tyndall, "Investment Decisions for Public Pension Funds," California Management Review, (Summer, 1965), pp. 27 - 40.

[7]Peter O. Dietz, "Pension Fund Investment Performance--What Method To Use When," Financial Analysts Journal, (January-February, 1966), pp. 83 - 86.

unfounded worry some legislatures have over common stock as an investment media. Almost all state fund managers report better yields on their common stock portfolios than on their fixed income group.[8]

As shown in some studies, the average difference in total yield (interest, dividends, and growth) between common stock and mortgages has been around 4 percent over the past 40 years; between common stock and corporate bonds about 4.5 percent; between common stock and government bonds around 5.5 percent; and between common stock and municipal bonds over 6 percent.[9] Furthermore, it was pointed out in these studies that there was little additional risk for high grade equities compared to other types of investments. In fact, when both the business risk as well as the inflationary risk were considered, there was probably considerably more money "lost" through investment in fixed income securities than investing in common stock of grade A or better companies.

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[8]Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964) p. 10.

[9]Elvo T. Beier, How to Increase the Investment Return of Pension and Welfare Funds (New York: Dornost Publishing Co., 1965) p. 14.

	EQUITIES AUTH.	PERCENT* AUTH.	REMARKS
Alabama	Yes	20	None
Alaska	Yes	50	5% of any corp. max.
Arizona	Yes	40	None
Arkansas	Yes	--	"Limited amounts"
California	Yes	25	None
Colorado	Yes	30	None
Georgia	Yes	50	None
Hawaii	Yes	--	35% currently
Idaho	Yes	--	Prudent man rule
Illinois	No	--	None
Indiana	Yes	--	Selected industries
Iowa	Yes	10	None
Kansas	Yes	50	None
Kentucky	Yes	--	Prudent man rule
Louisiana	Yes	--	Prudent man rule
Maine	Yes	--	Prudent man rule
Maryland	Yes	50	None
Massachusetts	Yes	--	Selected industries
Michigan	Yes	25	None
Minnesota	Yes	45	None
Mississippi	No	--	Corp. bonds auth.
Missouri	Yes	--	Prudent man rule
MONTANA	No	--	Corp. bonds auth.
Nevada	Yes	--	None
New Hampshire	Yes	--	Prudent man rule
New Jersey	Yes	15	None
New Mexico	Yes	75	None
New York	Yes	--	None
North Carolina	Yes	15	None
North Dakota	Yes	50	None
Ohio	Yes	35	None
Oklahoma	Yes	--	Prudent man rule
Oregon	Yes	--	Prudent man rule
Rhode Island	Yes	--	No limit on amount
South Carolina	No	--	Corp. bonds auth.
South Dakota	Yes	--	None
Tennessee	Yes	50	None
Texas	Yes	75	None
Utah	Yes	--	None
Vermont	Yes	35	None
Virginia	Yes	--	None
Washington	Yes	--	None
West Virginia	No	--	Corp. bonds auth.
Wisconsin	Yes	--	None
Wyoming	No	--	Corp. bonds auth.

*The figure in this column is a percent of total fund assets.

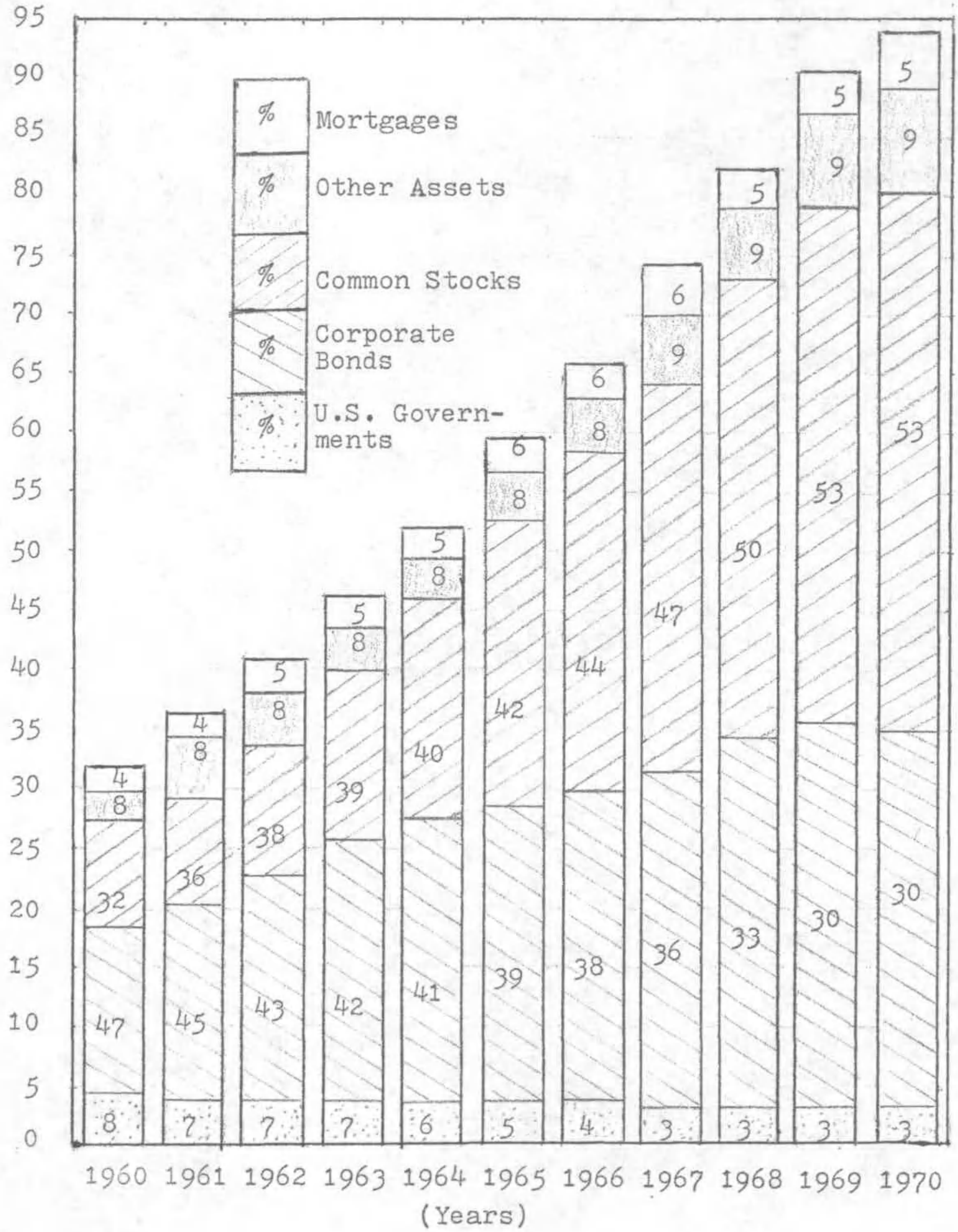
NOTE: No information available for Conn., Del., Fla., Neb., and Penn.

Fig. 4.--Summary of State Investment Regulations

The unique requirements of trust funds were recognized in the studies noted earlier (footnotes 4, 5, 6, and 7) as well as the many studies by other states. First, they are essentially long term investors so that they do not have to concern themselves with short term market fluctuations. In addition trust funds have fairly predictable expenditure requirements. Finally, since the retirement trusts are set up on an actuarial basis, the added benefits or reduced costs which can be achieved by increasing returns can be calculated.

The lead in liberalization of investment policies was begun by the private pension funds and insurance companies. How the percent of these funds invested in common stock has grown over the past 10 years is shown in Figure 5. The assets of these funds increased from just over 30 billion in 1960 to well over 90 billion in 1970. At the same time the percentage of the funds invested in common stock increased from 32 percent to 53 percent. The dollar amount of investments in common stock amounted to approximately 50 billion.

In order to fully understand the investment environment of trust funds, the different types of risk must be understood. Business risk is the risk that the firm in which the investment is made may go bankrupt. In this respect, common stock is more risky than bonds since the bonds have first claim on a bankrupt corporation. Business risk, however, is no longer a very realistic one when considering equities rated A or better by one of the major rating agencies. Adequate diversification further reduces this risk to an almost negligible



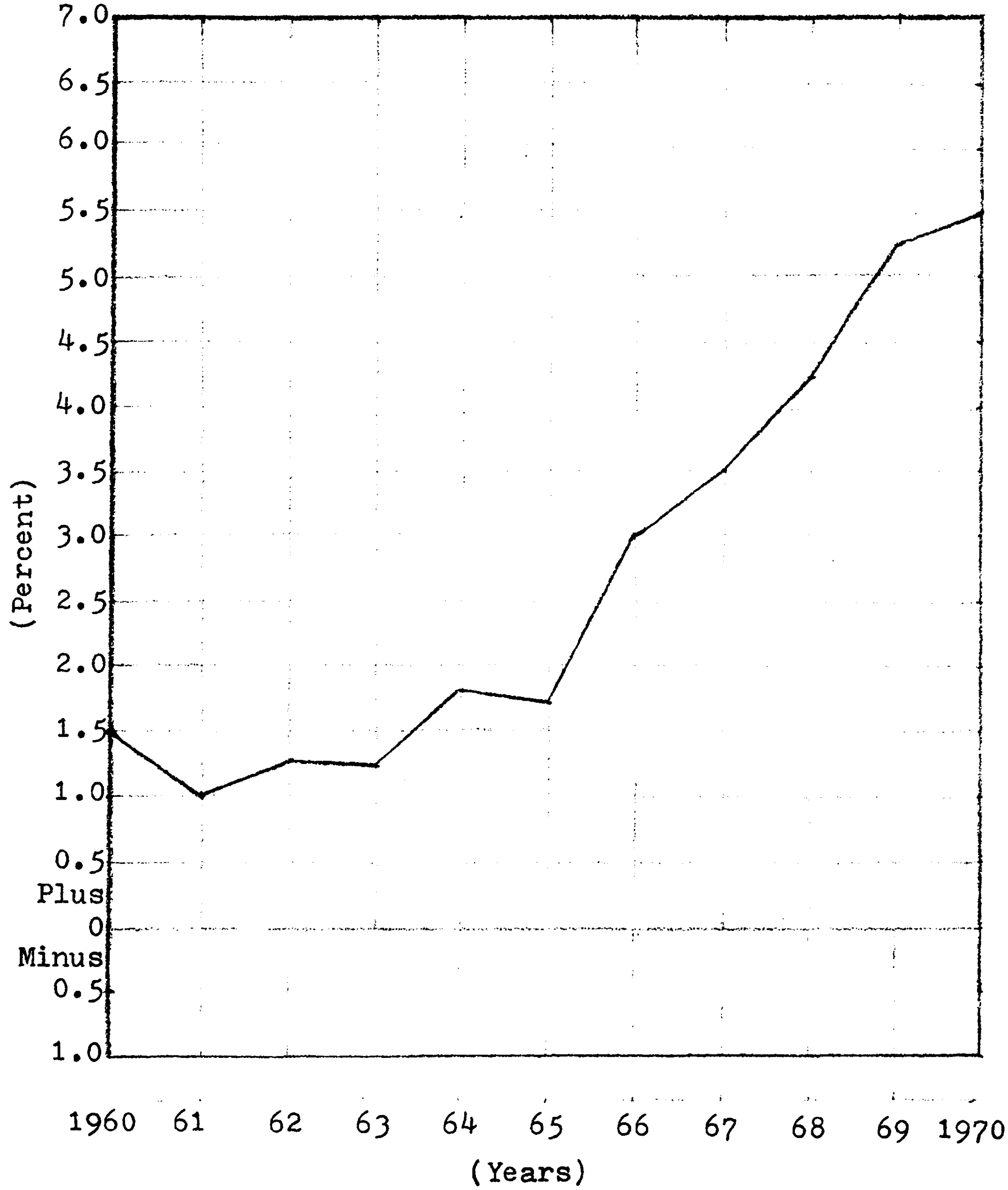
Source: Securities and Exchange Commission

Fig. 5.--Private Non-Insured Pension Fund Assets in Billions of Dollars

amount. The most significant risk for pension funds and other trusts is thus the purchasing power or inflationary risk. This risk is usually overlooked by institutional investors, particularly the nonprofessional investors and legislators who make the regulations for the investment of government funds.

That the risk of inflation is in fact a very real concern for the investor, particularly over the long term, is shown in Figure 6. The value of the dollar declined an average of 5-6 percent the past few years. Thus, a fund whose income was not at least 6 percent was actually declining in real value. For example, the Teachers' Retirement Fund reported earnings of 5.4 percent for 1969. As shown in Figure 7, the value of the dollar during 1969 decreased by over 6 percent. Thus the value of the assets of the fund actually decreased. All fixed income securities are susceptible to this risk of inflation and to hedge against such risks, the purchase of common stocks represent the best guarantee. In terms of long-run investing, there is little doubt that the risk of inflation is more costly than the risk of a highly rated company going bankrupt.

One other type of risk that should be understood although it is not as important a consideration in the United States as it is in some other countries, is the political risk. This type of risk includes that of political insurrection but should more realistically relate to potential interference of



Source: Moody's Investors Service

Fig. 6.--GNP Price Deflator·Average Annual Rates

of the government in steering investment in a particular direction. Our past experiences, however, indicate that this interference is of relatively short term. Thus since pension and trust funds are long term investments, they are not affected to any great degree. Again, it is also assumed that only high grade securities are to be selected.

Perhaps managers of public pension and trust funds have not been as quick to recognize the importance of the risk of inflation as private funds have been because of the guaranteed characteristic of the public funds. In this respect, any revenues which the public funds fail to earn because of their more restrictive regulations can be made up through government subsidization. Few private funds can rely on their corporate sponsors to help out if they fail to obtain the highest possible yield on their investments. Thus, private funds have a much greater percent of their assets invested in common stock than public funds. The amount of money along with the percentage of their assets that private funds have in common stock as of 1970 is shown in Figure 5. Their investment in common stock totaled about 50 billion dollars or 53 percent of fund assets.

The private fund's managers appear to be paying more attention to the work done by researchers in the area of trust fund investment than the public fund's managers. In one such study made by the University of Chicago Graduate School of Business, it was determined that "over the 35 year period 1926-1960, the rates of return (income plus appreciation) compounded annually on all common stocks listed on the New York Stock Exchange was 9.01 percent."[10] This return was relatively high as indicated by Figures 7 and 8. No attempt was made to determine a percentage growth as was done in the University of Chicago study. Although the rapid rate of growth of the early 1960's has slowed, most predictions are for continued growth in the future.

The return on common stock can be compared with the other returns available as shown in Figures 9, 10 and 11. It is indicated in the following graphs that the yields on fixed income securities increased sharply since 1967 due in part to the high inflation the country was undergoing. During this period, it is possible that the yield on these fixed income securities, particularly the corporate bonds, approached the yield potential on common stock. It is not likely, however that the high rate of inflation experienced since 1967 will continue for long. It is more probable that in the future the interest rates on this type security will continue to decline as it has during the past few quarters.

A definite comparison is given between the returns of private pension funds with the heavier investment in common stock and public pension funds in another study conducted by Dr. Murray Polakoff in 1966. The results of that study, as shown in Table 8, indicate that for 5 of the 7 years studied, private funds had a higher return than public funds.

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[10] Ibid.

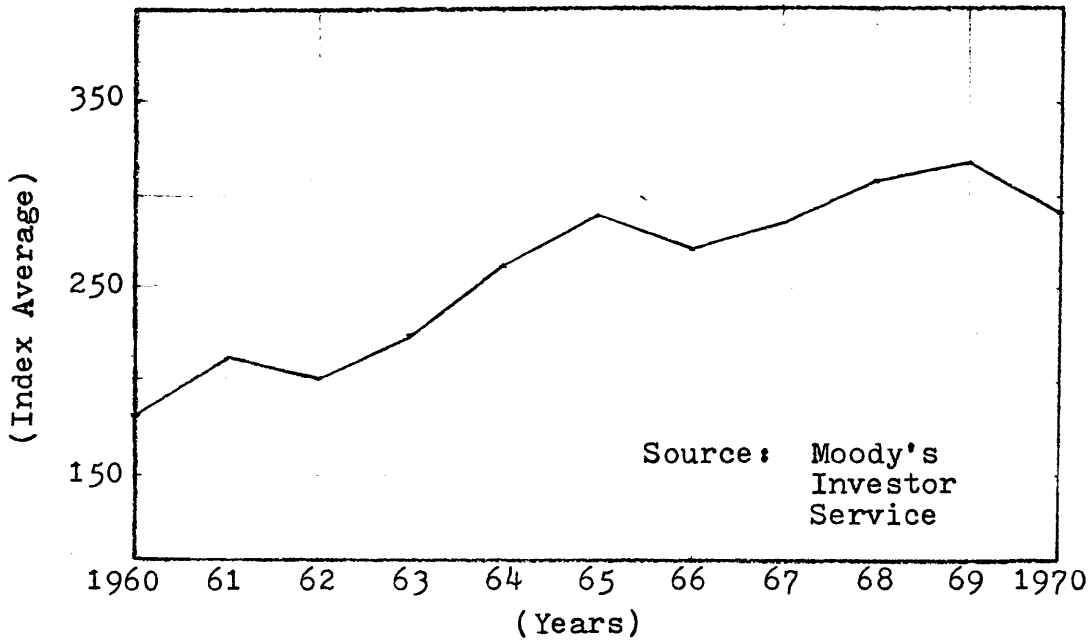

Fig. 7.--Moody's Industrial Averages, 1960-70

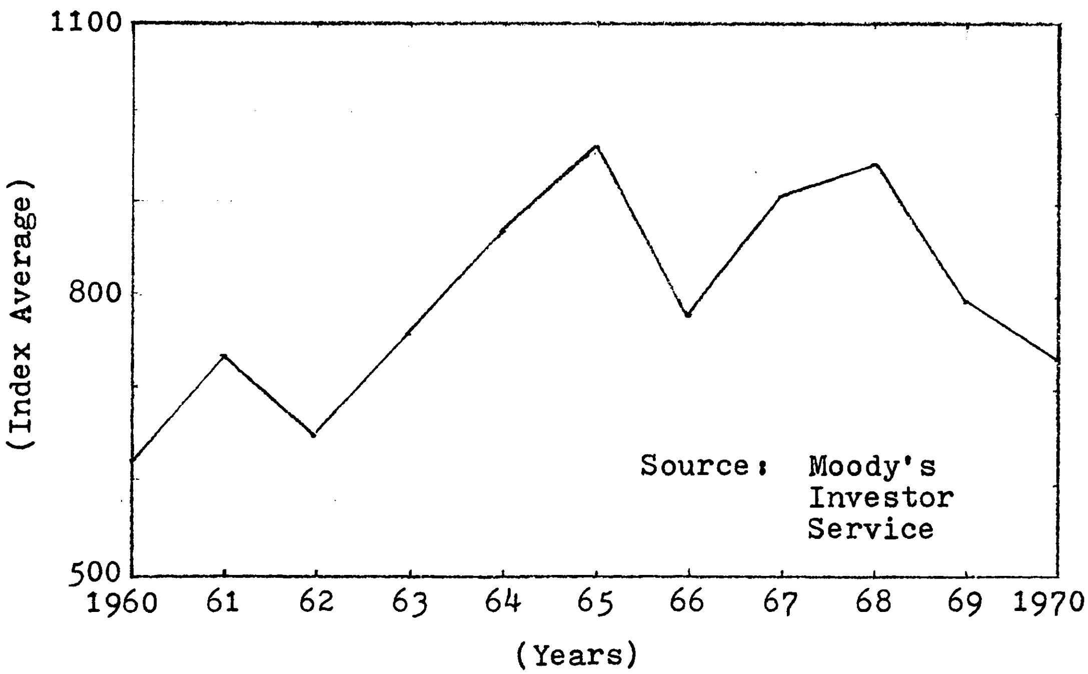

Fig. 8.--Dow Jones Industrial Averages, 1960-70

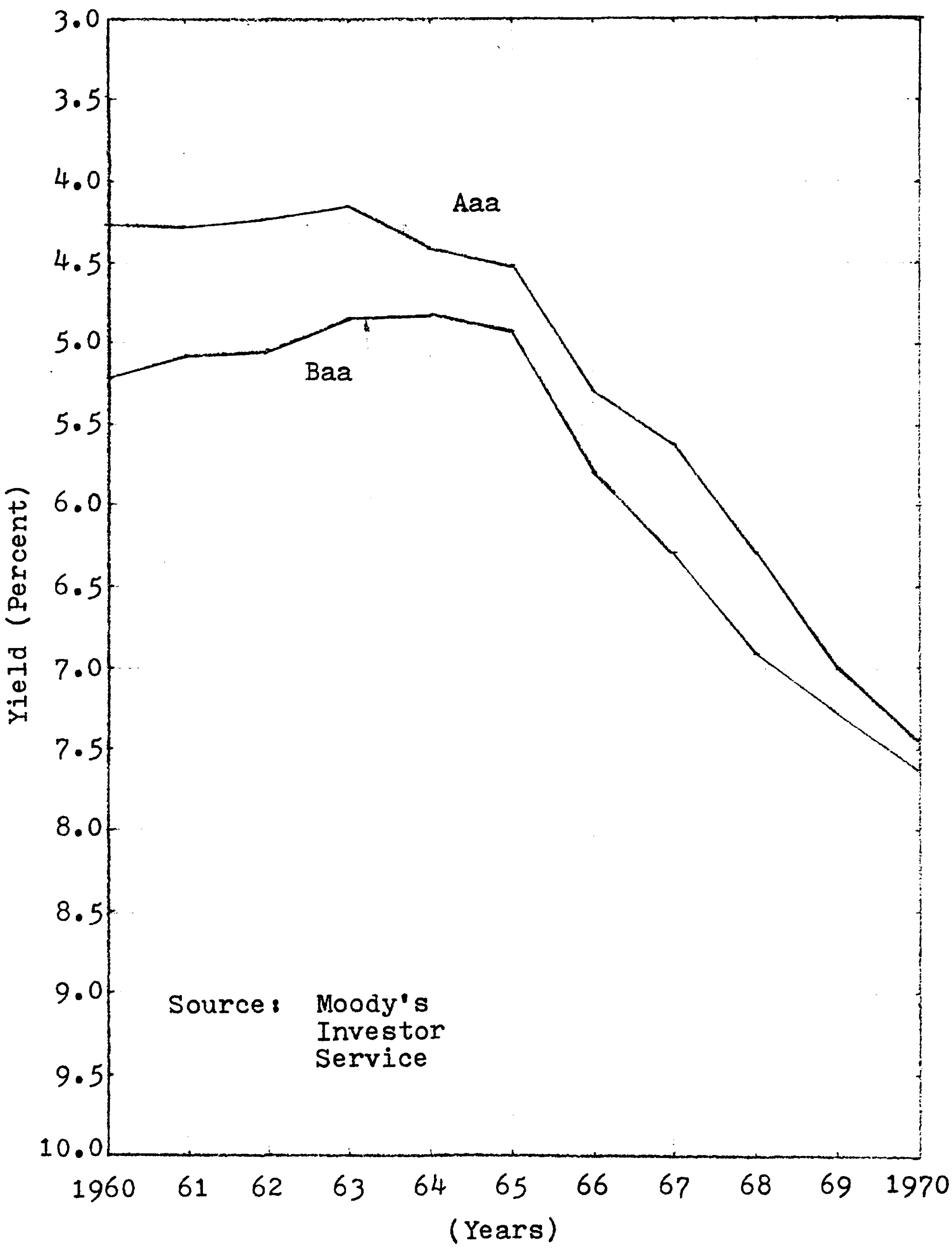

Fig. 9.--Corporate Bond Yields, 1960-70

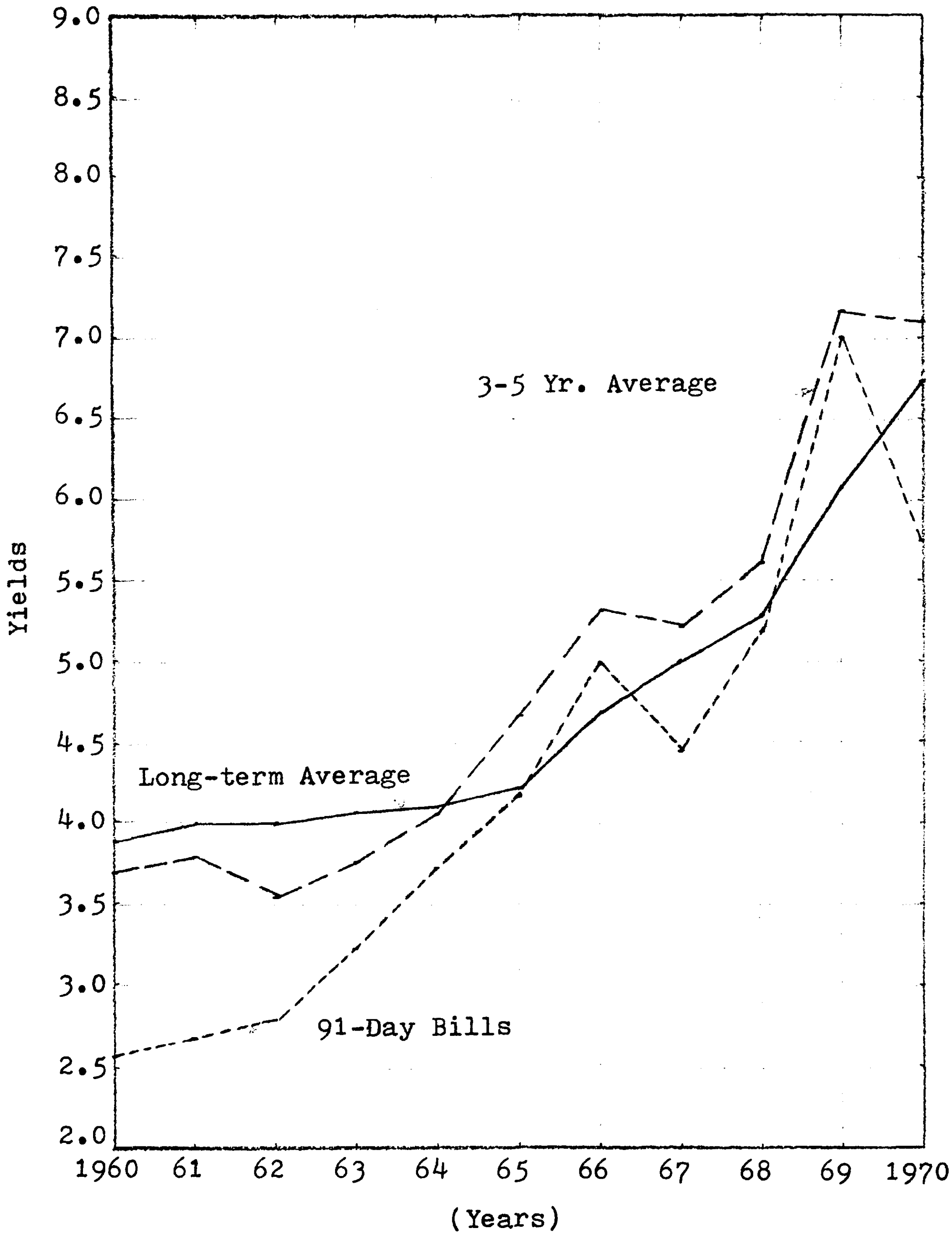

Fig. 10.--U.S. Government Securities Yields--
1960-70, Average Annual Rates

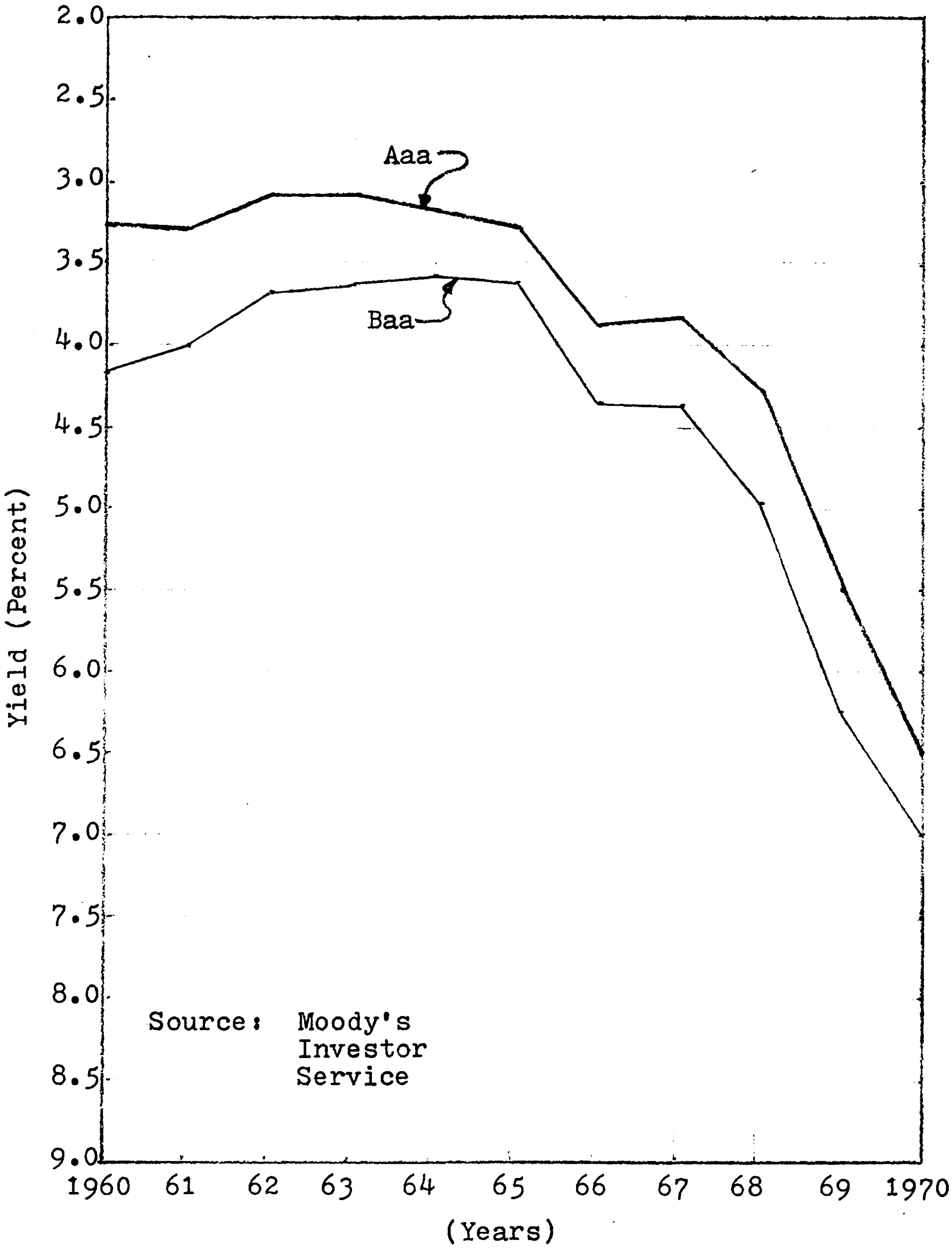

Fig. 11.--Municipal Bond Yields, 1960-70

TABLE 8

A COMPARISON BETWEEN PRIVATE AND PUBLIC PENSION FUND RETURNS

Year	Public Pension Fund Returns	Private Pension Fund Returns
1958	4.6%	11.8%
1959	(0.9)	4.9
1960	9.7	5.7
1961	2.0	11.8
1962	4.2	(2.9)
1963	2.8	9.4
1964	3.9	8.5

Source: Murray E. Polakoff, "Public Pension Funds," _Financial Analysts Journal_ (May-June, 1966), p. 79.

In addition to these academic studies done in equity investment for trust funds, numerous state and local governments have done studies on the return on investment in common stock. Many of these studies were presented in the 1964 Montana Legislative report on investments and can be aptly summarized by the following statement. "One may assert that perhaps without exception the liberalization of state laws to entrust the investment administration of public trust funds to professional direction and to broaden the range of permissive investment media to include, inter alia, FHA-guaranteed mortgages, corporate bonds, and common stocks, has led to substantial improvement in the production of income from such funds."[11]

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[11] _Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly_, W. A. "Bill" Groff, Chairman (Helena, Mt.: McKee Printing, December, 1964), p. 39.

The evidence is thus overwhelmingly in favor of liberalizing investment authorizations to include the purchase of common stock. In terms of risk, the only really significant difference between bonds and the common stock of high-grade corporation is in the possible short-term fluctuation of the market price. "However, public pension funds by their very nature are long-term investors who, in the past and, for the foreseeable future, have no short-run or unpredictable needs for funds that would be imperiled by a temporary decline in returns or falling market values."[12] "In the management of pension funds, their productivity (dividend yield and capital appreciation) should be the primary objective, completely overshadowing all others."[13] Montana must follow the lead of over 80 percent of the other states in allowing equity purchases.

Further Considerations

The recommendations in this section concern the need to restrict investment in municipal bonds unless the yield is equal to or higher than the obtainable yield in some other authorized security, the need to consider the cost of researching and maintaining a portfolio of mortgages in considering their value to a portfolio, and the need to

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[12] Murray E. Polakoff, "Public Pension Funds," Financial Analysts Journal (May-June, 1966), p. 80.

[13] Paul L. Howell, "Pension Funds and the Capital Market," The Journal of Finance (May, 1958), p. 262.

keep politics out of the public investment decision. If not considered, these problem areas could again cuase lower yields than necessary. Furthermore, there is evidence that each of these problems is either present today, or has been present recently in the state's investment environment.

The Case Against Municipals

The best argument against inclusion of municipal bonds in the portfolio of public pension funds can be illustrated by Figure 12. Although the utility bond yields do not represent all corporate bonds, they are an indication of the yield differentials between municipal bonds and the yields available through other investment media. In addition, there has been criticism in the past over the purchase of municipals by state funds because it was felt the trust funds were allowing the municipals to be floated at a lower rate than the market would otherwise require.[14] This problem was not felt to exist when the Montana Legislative Council made its report on investments in 1964. The report indicated that a profit had been made by most of the funds when their holdings of municipals were liquidated.

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[14] Report of the Montana Legislative Council to the Thirty-Ninth Legislative Assembly, W. A. "Bill" Groff, Chairman, (Helena, Mt.: McKee Printing, December, 1964), p. 29.

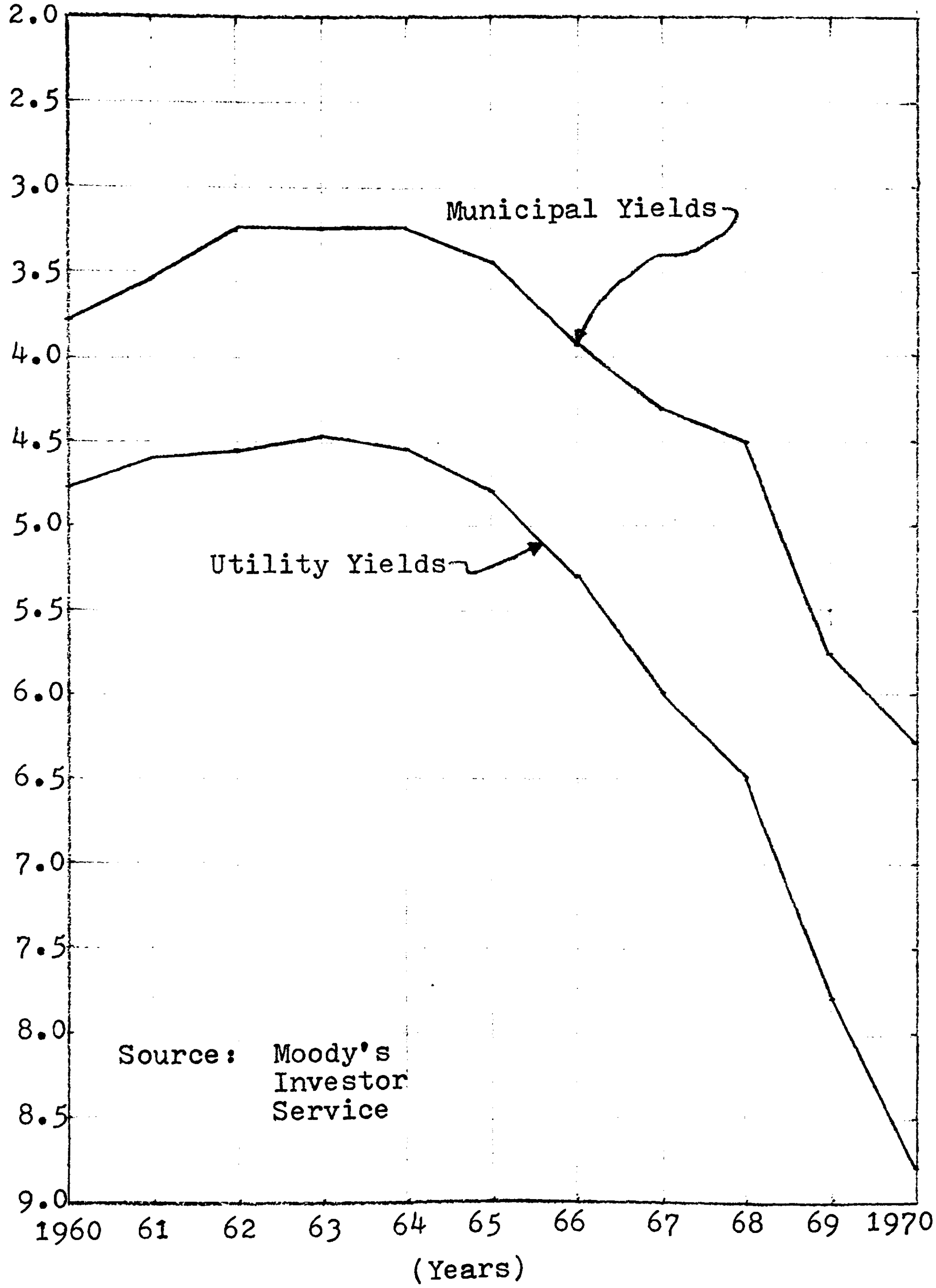

Fig. 12.--Municipal Bond Yields vs. Utility Bond Yields, 1960-70

On the other hand, the main argument in favor of investing public funds in municipals is that such investment benefits the people of the state in general. This attitude may still be held by some of the people who are eligible to sit on the State Investment Board. For this reason, the fallacy of this argument should be understood. "The notion of aiding economic activity...by concentrating investment within the state is clearly inappropriate and could be considered a breach of trust."[15] The trust and pension funds have been set up for the specific benefit of the members of these systems, not for the benefit of all Montanans. Furthermore, as has already been pointed out, higher returns can mean lower taxes, a situation which does benefit all people concerned.

Fortunately, all municipal bond holdings have been liquidated in favor of higher yielding securities. The Trust and Legacy Fund sold the last municipals that were held by any state fund in 1970. In order to maintain the best interest of the individuals relying on the returns from these funds, the only time in the future that municipals should be considered is when their yield is equal to or greater than the yield that could be obtained on any other security. There is little likelihood that this situation will ever occur. Thus, the state should realize that municipal securities are designed for taxpaying individuals or funds.

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[15] Ibid.

Mortgage Investments

Mortgage investments should be considered in the same manner as any other investment decision, obtaining the highest yield commensurate with reasonable safety. In recent years, public funds have increased their investments in mortgages significantly as yields on these securities increased even though there is a considerably higher cost in servicing mortgage investments than in servicing stock or bond portfolios. This is one of the greatest mistakes made by public trust and pension funds, i.e., not considering the higher cost of mortgages in determining the highest yield. Thus, in many cases, due to the high cost of servicing, a mortgage portfolio does not yield as high a return as a comparable corporate bond and certainly not as high as equities.

Mortgages did offer a higher return than most other fixed income securities until quite recently. Now, however, the yield on grade A or higher corporates is comparable. One problem that makes a specific analysis difficult is the fact that VA and FHA loans have a fixed interest charge but the points which must be paid when dealing in mortgages varies. This means that the actual yield would be increased or decreased by varying amounts depending on the time or the location where the mortgage is purchased. In addition there is no easy way to find out what the point spreads are in various places. Thus, one seldom knows whether or not he is obtaining the highest yield obtainable in the mortgage market.

The recommendation is, therefore, that the investment in mortgages should not be pursued as actively as has been done in the past unless the yield on them, including the cost of servicing the portfolio, is higher than can be obtained elsewhere. Generally, this policy would limit the investment in mortgages. Since there is no easy way to rate a mortgage investment as to quality the risks could be evaluated only in terms of the guarantee feature which is seldom 100 percent of the mortgage. At the present time, higher yields can be obtained in the areas of equities and corporate bonds.

Investments and Politics

The final consideration concerns the need to keep politics out of pension fund investment decisions. This simply means that the only consideration in making an investment other than reasonable safety is obtaining the highest available return over the life of the investment at the time the investment is made. To be precise, any time an investment decision is made because of political considerations, a breach of trust has occurred.

In addition, the managing of the state's investments should not be a topic for continual political debate. This second-guessing by nonprofessionals usually tends to inhibit the effective operation of the investment function. The decisions of the investment manager should not be continually subjected to question.

The investment manager should be responsible to the people whose funds he invests and ultimately to the governor, but as a member of the governor's staff, he should not have to worry about the reaction of any members of the legislative branch to his actions.

Summary

In this chapter, a case has been presented for liberalizing state investment regulations to allow state funds to be invested in common stock. If this authority had been granted in 1960 when it was recommended, the state would have realized millions of dollars in increased returns during the past 10 years. "Rising wages, higher living costs,...., demand a more dynamic and productive investment policy for the huge pension reserves which are now being accumulated for the protection of the aged."[16] Even though no one can predict that the future growth of common stocks will be as great as in the past, the ability to take advantage of this growth should be given.

Several other considerations to be aware of in the investment of public funds were also pointed out. These included restricting investment in municipal bonds, mortgages, and politically motivated investments. Failing to pay attention to these problems could easily lead to diminished returns.

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[16] Paul L. Howell, "Common Stocks and Pension Fund Investing," Harvard Business Review (Nov. 1958), p. 93.

CHAPTER V

SUMMARY AND CONCLUSION

The need for more up-to-date regulation of the State's investment policies and more aggressive management of the investment program has been demonstrated. An introduction to the problem was presented in Chapter I. The fact that Montana has been slower to act than most other states is to the discredit of the legislative assembly. Most other states have encountered similar problems, but have had the foresight to change regulations and hire professional investment managers. The statutory background and past performance of the three funds was presented in Chapter II. The past performance of these funds indicates that yields could have been significantly increased through investment in common stock and through better selection of securities currently authorized for investment by state regulations.

A summary of past studies of the investment of state funds in Montana was presented in Chapter III. The same problems that were prevalent throughout the 60's were recognized at least as early as 1960 and recommendations for improvements were made. Unfortunately no action was forthcoming until August of 1971. The establishment of a State Investments Board, however, only can correct a portion of the problem, that of professional management and centralized record keeping. The legislature must act to establish more realistic investment regulations and should provide guidance to an investments officer for selecting the highest yielding securities available at the time purchases are made. In this way, the entire problem of lower than desirable yields may be eliminated.

The recommendations for improving the yield on the state's investments was presented in Chapter IV. The most important change that needs to be made is to authorize investment in common stock. Failure to do this has cost millions of dollars in lost revenues, and while there is no guarantee that the market will continue to grow as it has in the past, most evidence supports the thesis that over the long-run, common stock yields will exceed fixed income yields. The evidence supporting this recommendation comes from professional investment managers, educational researchers, and other state legislative studies. The evidence is virtually unanimous that investment in common stock increases the overall yield including both dividend and appreciation. It was also pointed out in this chapter that failing to consider all of the costs in servicing mortgages could lead to selecting less than the best yielding securities. In addition, it is difficult to compute a yield for mortgages since no statement of discounts or premiums paid for the mortgage is given. Finally, the need to keep politics out of the investment process was stated. Making an investment decision based on anything other than economic considerations, i.e., is this the highest yielding security available at the time, should be considered a breach of trust.

In conclusion, therefore, a plea must be made for a suggested change in the state constitution and statutes to allow a broader range of investments by the state investment officer and include common stock authorization. In addition, guidance should be provided for the investment officer to select only the highest yielding securities available when making an investment decision. Only in this way can the maximizing of return to the people take place.

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